NOTES ON VALVATA (LYOGYRUS) BROWNII.

BY H. F. CARPENTER.

This species was found abundantly in Cunliff's Pond, at Elmville, three or four miles south of Providence, adhering to stones and empty valves of Unio complanatus. I discovered them in 1870 and kept more than two hundred specimens alive all summer in a glass globe filled with water. I read a description of it under the name of *Amnicola Brownii* before a meeting of the Providence Franklin Society, Tuesday evening, Mar. 26th, 1872, and published the same in the "Central Falls Weekly Visitor" the following week. The specific name was given in honor of Dr. W. O. Brown, who was then President of the Society. Specimens was sent to the late Geo. W. Tryon, who pronounced them to be a new species of Valvata, subgenus Lyogyrus. Of late years they have been gradually growing scarcer and the last time I examined the pond I could find none, although I did not search very thoroughly. Specimens of these shells are in the collections of Mr. John Ford, of Philadelphia, Mr. F. C. Baker, Mr. J. M. Southwick and several other conchologists. The following is my original description:

"Shell small, thin, translucent, of a light green color, when divested of the thick, dirty epidermis which covers it, turreted, elongate, composed of five gibbous whorls; operculated and umbilicated; apex very obtuse; suture very deep; aperture nearly circular, a little broader at the base; lip continuous, simple, the superior edge of the inner lip not touching the preceding whorl, except in young specimens. Average size $\frac{1}{10}$ inch in length, by $\frac{1}{14}$ in breadth. Diameter of aperture $\frac{1}{25}$ inch. Full grown specimens which are rare, attain a length of $\frac{3}{20}$ inch.

ON ANODONTA FLUVIATILIS DILLW.

The following letter received from Gen. de Peyster is interesting as showing the facility with which fresh-water mollusks become established in suitable spots.

UPPER RED HOOK, N. Y., Sept. 19, '89.

MR. DE PEYSTER:

Dear Sir:

At Dover Plains, Eastern Duchess Co., N. Y., last week I secured sixty-three specimens of *A. fluviatilis,* including twenty-five or more

young, small shells, which I will place in some water suitable for their growth and propagation. Among the rest are two or three of good size, while all are well suited for the cabinet.

The largest example I have observed is an imperfect dead valve, which, with its other half, measured originally as follows: Transversely, $6\frac{5}{8}$; vertically, $3\frac{3}{8}$; and in thickness $2\frac{5}{8}$ inches. I have no doubt that some have been found of still larger dimensions; was told that such had been taken, but after diligent inquiry failed to get trace of them.

Regarding the place of their occurrence, I can give the following: About two and one-half miles south of Dover Plains, on the farm of Mr. Geo. Preston, is a swamp near the outlet of which a considerable quantity of peat was dug thirty or more years ago. The hole thus formed is about 100 feet by 40 in length and breadth, and 4 feet deep, and serves as a basin to collect some of the drainage of the marsh, it being filled with water and perhaps three feet of black mud deposited during the intervening time: from this is raked in limited numbers specimens of this *Anodon*, extraordinary for their luxuriant growth and beautiful coloring.

That this whole tract of about twelve acres was originally a shallow lake there is no question. Its former outlines are seemingly well defined: it lies encircled by hills of upturned calcareous and micaceous rocks; a narrow opening on the north has afforded an avenue of escape for its imprisoned waters. The swamp has no inlet but is springy over its entire surface, and at present is overgrown with shrubbery and small trees. Its outlet is a small ditch which empties into the Weebutook, or Ten Mile River—a tributary of the Housatonic, about three-eighths of a mile distant, making a descent of fifty feet in its course. Underneath the stratum of peat is a bed of marl a couple of feet in thickness, consisting of fresh-water shells—species of Sphaerium, Limnaea, Physa and Planorbis, which lived ages ago.

Whether any of these bivalves were noticed while digging peat, is impossible to say, but believe it is only eight or ten years since they have attracted attention, and this because the muskrats were bringing them to light; many recently broken shells are lying about the shore—brought up by these rodents.

I could not find any other fresh-water shells in the pond, but obtained about the marsh quite a number of interesting land-snails, among them the following: *Mesodon albolabris*, *M. thyroides*,

Patula alternata, Zonites arboreus, Z. fulvus, Vallonia pulchella, Succinea obliqua, S. ovalis, S. avara, Pupa armifera, P. pentodon, P. corticaria, Vertigo Bollesiana, V. contracta and *Carychium exiguum.*

Of *Pupa armifera* it is the first time I have found it in this County.

The above are facts, the several questions arising concerning the presence of these clams here I will not answer.

Have they worked their way from the river during comparatively recent years? or are they a sort of living connecting link between the lake era and the present?

Yours very truly,
W. S. TEATOR.

THE SHELL-BEARING MOLLUSCA OF RHODE ISLAND.

BY HORACE F. CARPENTER.

Genus *Astarte*, Sowerby, 1816.

This genus contains twenty species; eight of these inhabit the coast of New England, from Cape Cod to Greenland, and three have been found south of Cape Cod, although none of them have actually been discovered in Rhode Island waters as yet.

183.—*Astarte castanea*, Say.

Syns.:

Venus castanea, Say.
Crassina castanea, Lam. Hanley.
Crassina sulcata, Brown.
Venus sulcata, Mont., Maton and Rackett.

Shell thick and solid, sub-orbicular; beaks elevated and much eroded, nearly central; lunule in front of the beaks deeply excavated; surface not strongly waved as in most species of the genus, but only slightly undulated, covered with a light-brown epidermis, excepting on the posterior portion, where it is almost black; hinge strong; ligament small; valves with one stout tooth in the right valve, and two in the left; margin crenulated in adult shells. Length one inch; height one inch; breadth $\frac{11}{20}$.

Gould says: "The foot of the animal is of a bright vermillion color and when seen protruded, one would hardly persuade himself that a red wafer was not embraced by the valves.